**AMENDMENTS TO THE CLAIMS:**

The listing of claims will replace all prior versions, and listings of claims in the application:

**LISTING OF THE CLAIMS**

1. (Currently Amended) In a power source for an electric arc welder including an inverter having two primary circuits connected in a series circuit across the DC bus of an input rectifier, each of said primary circuits comprising a capacitor ~~is~~ in parallel with a primary winding section and a switch to apply the voltage of said capacitor across said primary winding section, whereby said primary circuits alternately create a voltage pulse in said primary winding sections to induce voltage pulses in a secondary circuit having a secondary winding coupled to said primary windings and connected by an output circuit to an output welding circuit, the improvement comprising: a soft ferrite saturable reactor in at least one of said series circuit or said output circuit to delay said voltage pulse in said primary winding sections and wherein said saturable reactor is passive and has a fixed saturation flux density.

2. (Original) The improvement as defined in claim 1 wherein said saturable reactor is in said output circuit.

3. (Original) The improvement as defined in claim 2 wherein the saturable reactor has a saturation flux density less than 0.50 Tesla.

4. (Original) The improvement as defined in claim 1 wherein the saturable reactor has a saturation flux density less than 0.50 Tesla.

5. (Original) The improvement as defined in claim 4 wherein said saturable reactor has a ratio of surface area to volume greater than 3.5 cm2/cm3.

6. (Original) The improvement as defined in claim 3 wherein said saturable reactor has a ratio of surface area to volume greater than 3.5 cm2/cm3.

7. (Currently Amended) The improvement as defined in claim ~~2~~ 3 wherein said saturable reactor is pipe-shaped and has a ratio of surface area to volume greater than 3.5 cm2/cm3 and wherein said saturable reactor includes an outer heat sink tube that is formed from a highly conductive material and has a cylindrical base with outwardly expanding fins and an expandable assembly gap.

8. (Currently Amended) The improvement as defined in claim ~~1~~ 3 wherein said saturable reactor is pancake-shaped with heat sink disks to dissipate heat and has a ratio of surface area to volume greater than 3.5 cm2/cm3 and wherein said disks have holes at least as large as the internal diameter of said saturable reactor.

9. (Currently Amended) The improvement as defined in claim ~~8~~ 6 wherein said output circuit is a rectifier with two input leads and said saturable reactor is a ring surrounding both of said leads.

10. (Original) The improvement as defined in claim 9 wherein said ring has a length greater than its outside diameter.

11. (Original) The improvement as defined in claim 9 wherein the cross-section of said ring is a rectangle having a width greater than its height.

12. (Currently Amended) The improvement as defined in claim ~~7~~ 5 wherein said output circuit is a rectifier with two input leads and said saturable reactor is a ring surrounding both of said leads.

13. (Original) The improvement as defined in claim 12 wherein said ring has a length greater than its outside diameter.

14. (Original) The improvement as defined in claim 12 wherein the cross-section of said ring is a rectangle having a width greater than its height.

15. (Original) The improvement as defined in claim 4 wherein said

output circuit is a rectifier with two input leads and said saturable reactor is a ring surrounding both of said leads.

16. (Original) The improvement as defined in claim 15 wherein said ring has a length greater than its outside diameter.

17. (Original) The improvement as defined in claim 15 wherein the cross-section of said ring is a rectangle having a width greater than its height.

18. (Original) The improvement as defined in claim 3 wherein said output circuit is a rectifier with two input leads and said saturable reactor is a ring surrounding both of said leads.

19. (Original) The improvement as defined in claim 18 wherein said ring has a length greater than its outside diameter.

20. (Original) The improvement as defined in claim 18 wherein the cross-section of said ring is a rectangle having a width greater than its height.

21. (Original) The improvement as defined in claim 2 wherein said output circuit is a rectifier with two input leads and said saturable reactor is a ring surrounding both of said leads.

22. (Original) The improvement as defined in claim 21 wherein said ring has a length greater than its outside diameter.

23. (Original) The improvement as defined in claim 21 wherein the cross-section of said ring is a rectangle having a width greater than its height.

24. (Original) The improvement as defined in claim 1 wherein said output circuit is a rectifier with two input leads and said saturable reactor is a ring surrounding both of said leads.

25. (Original) The improvement as defined in claim 24 wherein said ring has a length greater than its outside diameter.

26. (Original) The improvement as defined in claim 24 wherein the cross-section of said ring is a rectangle having a width greater than its height.

27. (Original) The improvement as defined in claim 24 wherein said delay is at least 0.5 microseconds.

28. (Currently Amended) The improvement as defined in claim 8 wherein said delay is at least 0.5 microseconds but not more than 3 microseconds.

29. (Currently Amended) The improvement as defined in claim 7 wherein said delay is at least 0.5 microseconds but not more than 3 microseconds.

30. (Original) The improvement as defined in claim 4 wherein said delay is at least 0.5 microseconds.

31. (Original) The improvement as defined in claim 2 wherein said delay is at least 0.5 microseconds.

32. (Original) The improvement as defined in claim 1 wherein said delay is at least 0.5 microseconds.

33. (Currently Amended) A soft ferrite saturable reactor ring for delaying the voltage of a primary winding circuit of a transformer having a secondary winding circuit, wherein said saturable reactor is passive and has a fixed saturation flux of less than 0.50 Tesla.

34. (Original) A saturable reactor as defined in claim 33 wherein said ring has a length greater than its outside diameter.

35. (Original) A saturable reactor as defined in claim 33 wherein the cross-section of said ring is a rectangle having a width greater than its height.

36. (Original) A saturable reactor as defined in claim 35 including a heat sink tube around said ring.

37. (Original) A saturable reactor as defined in claim 34 including a heat sink tube around said ring.

38. (Currently Amended) A saturable reactor as defined in claim 33 including a heat sink tube around said ring, said heat sink tube being formed from a highly conductive material and having a cylindrical base with outwardly expanding fins and an expandable assembly gap.

39. (Currently Amended) In a pulsed transformer of an inverter driven welder, which transformer has a pulsed primary winding network and a secondary winding network, the improvement comprising: a soft ferrite saturable reactor in series with said transformer, said saturable reactor is passive and has a fixed saturation flux of less than 0.40 tesla.

40. (Currently Amended) In a pulsed transformer of an inverter driven welder, which transformer has a pulsed primary winding network and a secondary winding network, the improvement comprising: a passive saturable reactor in series with said transformer, said saturable reactor is a soft ferrite ring with a cross-section as a rectangle having a width greater than its height and has a fixed saturation flux density.

41. (Currently amended) In a pulsed transformer of an inverter driven welder, which transformer has a pulsed primary winding network and a secondary winding network, the improvement comprising: a soft ferrite, passive saturable reactor in series with said transformer, said saturable reactor includes a heat sink tube around ~~said~~ a ring and has a fixed saturation flux density.

42. (Currently Amended) The improvement as defined in claim 41 wherein said saturable reactor delays pulses in said primary winding network by at least 0.5 microseconds and said heat sink tube is formed from a highly conductive material and has a cylindrical base with outwardly expanding fins and an expandable assembly gap.

43. (Original) The improvement as defined in claim 40 wherein said saturable reactor delays pulses in said primary winding network by at least 0.5 microseconds.

44. (Original) The improvement as defined in claim 39 wherein said saturable reactor delays pulses in said primary winding network by at least 0.5 microseconds.